IN THE CLAIMS

This listing of claims replaces all prior versions, and listings, in this application.

Claims 1-97 (canceled)

98. (previously presented) A plant expression cassette, wherein said expression cassette expresses non-degraded human lactoferrin in seed, said cassette comprising a gene encoding human lactoferrin comprising the sequence SEQ ID NO: 23, said gene being operatively linked to the sequence SEQ ID NO: 21 and a leader sequence encoding a signal peptide of the sequence SEQ ID NO: 26.

99. (previously presented) The plant expression cassette according to claim 98, wherein said leader sequence has the sequence SEQ ID NO: 13.

100. (previously presented) The plant expression cassette according to claim 98, wherein said gene encoding human lactoferrin has the sequence SEQ ID NO: 1.

101. (previously presented) A recombinant DNA vector comprising the plant expression cassette of claim 98.

102. (previously presented) The recombinant DNA vector according to claim 101, wherein said leader sequence has the sequence SEQ ID NO: 13.

103. (previously presented) The recombinant DNA vector according to claim 101, wherein said gene coding for human lactoferrin has the sequence SEQ ID NO: 1.

104. (previously presented) A method for using the vector according to claim 101 for the transformation of vegetal cells comprising:

transferring said vector in competent agrobacterium cells; and

transforming said vegetal cells with the agrobacterium cells obtained from said transferring.

105. (previously presented) A vegetal cell including the vector of claim 101.

106. (previously presented) A cellular aggregation obtained from cells according to claim 105.

107. (previously presented) The cellular aggregation according to claim 106 wherein said aggregation is a callus, and wherein said callus is capable of regenerating a transgenic plant.

108. (previously presented) A transgenic plant, comprising the expression cassette of claim 98, said plant expressing in-seed the non-degraded protein human lactoferrin.

109. (previously presented) The transgenic plant according to claim 108, said plant being selected from the group consisting of solanaceae, cereals and leguminosae.

110. (previously presented) The transgenic plant according to claim 109, said plant being selected from the group consisting of soya, tobacco and rice.

111. (previously presented) A method for using the vector according to claim 101 for transformation of vegetal cells comprising:

subjecting said cells to bombing with a biolistic system; and

biolistically transforming said cells with said vector.

112. (withdrawn) A method for production of human lactoferrin extracts comprising:

collecting the seeds of the transgenic plant according to claim 108; and

extracting human lactoferrin from said seeds.

113. (withdrawn) A method of using the transgenic plant according to claim 108 for the production of non-degraded human lactoferrin comprising:

extracting said non-degraded human lactoferrin from seeds of said plant.

114. (withdrawn) A method for the production of human lactoferrin-containing flours comprising:

collecting the seeds of the transgenic plant according to claim 108; and

grinding said seeds.

115. (withdrawn) A method for the production of functional food containing human lactoferrin comprising:

collecting the seeds of the transgenic plant according to claim 108; and

introducing said seeds or products of said seeds in food.

116. (withdrawn) The method according to claim 115, wherein said functional food is selected from the group consisting of vegetal milks, fruit juices, fruit homogenized foods and vegetable homogenized foods.

117. (withdrawn) The transgenic plant of claim 108 as a nutraceutical comprising human lactoferrin.

Claims 118-123 (canceled)

124. (new) A method for using the vector according to claim 102 for the transformation of vegetal cells comprising:

transferring said vector in competent agrobacterium cells; and

transforming said vegetal cells with the agrobacterium cells obtained from said transferring.

125. (new) A vegetal cell including the vector of claim 102.

126. (new) A cellular aggregation obtained from cells according to claim 125.

127. (new) The cellular aggregation according to claim 126 wherein said aggregation is a callus, and wherein said callus is capable of regenerating a transgenic plant.

128. (new) A transgenic plant, comprising the expression cassette of claim 99, said plant expressing in-seed the non-degraded protein human lactoferrin.

129. (new) The transgenic plant according to claim 128, said plant being selected from the group consisting of solanaceae, cereals and leguminosae.

130. (new) The transgenic plant according to claim 129, said plant being selected from the group consisting of soya, tobacco and rice.

131. (new) A method for using the vector according to claim 102 for transformation of vegetal cells comprising:

subjecting said cells to bombing with a biolistic system; and

biolistically transforming said cells with said vector.

132. (new) A method for production of human lactoferrin extracts comprising:

collecting the seeds of the transgenic plant according to claim 128; and

extracting human lactoferrin from said seeds.

133. (new) A method of using the transgenic plant according to claim 128 for the production of non-degraded human lactoferrin comprising:

extracting said non-degraded human lactoferrin from seeds of said plant.

134. (new) A method for the production of human lactoferrin-containing flours comprising:

collecting the seeds of the transgenic plant according to claim 128; and

grinding said seeds.

135. (new) A method for the production of functional food containing human lactoferrin comprising:

collecting the seeds of the transgenic plant according to claim 128; and

introducing said seeds or products of said seeds in food.

136. (new) The method according to claim 135, wherein said functional food is selected from the group consisting of vegetal milks, fruit juices, fruit homogenized foods and vegetable homogenized foods.

137. (new) The transgenic plant of claim 128 as a nutraceutical comprising human lactoferrin.

138. (new) A method for using the vector according to claim 103 for the transformation of vegetal cells comprising:

transferring said vector in competent agrobacterium cells; and

transforming said vegetal cells with the agrobacterium cells obtained from said transferring.

139. (new) A vegetal cell including the vector of claim 103.

140. (new) A cellular aggregation obtained from cells according to claim 139.

141. (new) The cellular aggregation according to claim 140 wherein said aggregation is a callus, and wherein said callus is capable of regenerating a transgenic plant.

142. (new) A transgenic plant, comprising the expression cassette of claim 100, said plant expressing in-seed the non-degraded protein human lactoferrin.

143. (new) The transgenic plant according to claim 142, said plant being selected from the group consisting of solanaceae, cereals and leguminosae.

144. (new) The transgenic plant according to claim 143, said plant being selected from the group consisting of soya, tobacco and rice.

145. (new) A method for using the vector according to claim 103 for transformation of vegetal cells comprising:

subjecting said cells to bombing with a biolistic system; and

biolistically transforming said cells with said vector.

146. (new) A method for production of human lactoferrin extracts comprising:

collecting the seeds of the transgenic plant according to claim 142; and

extracting human lactoferrin from said seeds.

147. (new) A method of using the transgenic plant according to claim 142 for the production of non-degraded human lactoferrin comprising:

extracting said non-degraded human lactoferrin from seeds of said plant.

148. (new) A method for the production of human lactoferrin-containing flours comprising:

collecting the seeds of the transgenic plant according to claim 142; and

grinding said seeds.

149. (new) A method for the production of functional food containing human lactoferrin comprising:

collecting the seeds of the transgenic plant according to claim 142; and

introducing said seeds or products of said seeds in food.

150. (new) The method according to claim 149, wherein said functional food is selected from the group consisting of vegetal milks, fruit juices, fruit homogenized foods and vegetable homogenized foods.

151. (new) The transgenic plant of claim 142 as a nutraceutical comprising human lactoferrin.